

WHAT IS CLAIMED IS:

1. An analyzer comprising:

a sample preparing portion configured for preparing an assay sample, wherein the assay sample comprises at least one reagent and a blood specimen;

a light source for irradiating the assay sample;

a light detector for detecting optical information from a particle in the assay sample; and

an analyzing portion where blood cell counting and detection of a substance to be immunoassayed are carried out based on the optical information detected by the light detector.

2. The blood analyzer of claim 1, wherein the reagent comprises an antibody or an antigen against the substance to be immunoassayed.

3. The blood analyzer of claim 1, wherein the reagent comprises carrier particles sensitized with an antibody or an antigen against the substance to be immunoassayed.

4. The blood analyzer of claim 1, wherein the reagent comprises a fluorescent dye for staining blood cells.

5. The blood analyzer of claim 3, wherein optical information detected from the carrier particles is different than optical information detected from blood cells.

5 6. The blood analyzer of claim 3, wherein the analyzing portion differentiates the carrier particles and blood cells based on a difference between optical information detected from the carrier particles and optical information detected from the blood cells.

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7. The blood analyzer of claim 1, wherein the analyzing portion differentiates blood cells into erythrocytes, leukocytes and platelets, and wherein the analyzing portion counts.

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8. The blood analyzer of claim 3, wherein the analyzing portion obtains a degree of agglutination of the carrier particles based on optical information detected from the carrier particles, thereby enabling detection of the substance to be
20 immunoassayed.

9. The blood analyzer of claim 1, wherein the analyzing portion corrects an immunoassay result based on a result of

blood cell counting.

10. The blood analyzer of claim 9, wherein the analyzing
portion obtains a hematocrit value based on size information
5 of blood cells and corrects the immunoassay result using the
hematocrit value.

11. The blood analyzer of claim 1, wherein the optical
information is scattered light from the particle in the assay
10 sample.

12. The blood analyzer of claim 1, wherein the optical
information is fluorescence from the particle in the assay
sample.

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13. A method of analyzing blood comprising:
preparing an assay sample by adding at least one reagent
to a blood specimen;

irradiating the assay sample;

20 detecting optical information from a particle in the assay
sample; and

performing blood cell counting and detection of a
substance to be immunoassayed based on the optical information

detected.

14. An analyzer comprising:

a sample preparing portion, which is configured for
5 preparing a sample for an immunoassay by adding a reagent for
the immunoassay to one of at least two split blood specimens,
and for preparing a sample for blood cell counting by adding
a reagent for the blood cell counting to another of the at least
two split blood specimens;

10 a light source for irradiating the sample for immunoassay
and the sample for blood cell counting;

a light detector for detecting optical information from
a particle in each of the sample for immunoassay and the sample
for blood cell counting; and

15 an analyzing portion, wherein a substance to be
immunoassayed is detected based on the optical information
detected from the particle in the sample for immunoassay, and
wherein the blood cell counting is performed based on the optical
information detected from the particle in the sample for blood
20 cell counting.

15. The blood analyzer of claim 14, wherein the reagent for
the immunoassay comprises an antibody or an antigen against

the substance to be immunoassayed.

16. The blood analyzer of claim 14, wherein the reagent for the immunoassay comprises carrier particles sensitized with an antibody or an antigen against the substance to be immunoassayed.

17. The blood analyzer of claim 14, wherein the reagent for the blood cell counting comprises a fluorescent dye for staining blood cells.

18. The blood analyzer of claim 16, wherein optical information detected from the carrier particles is different than optical information detected from blood cells.

19. The blood analyzer of claim 16, wherein the analyzing portion differentiates the carrier particles and blood cells based on a difference between optical information detected from the carrier particles and optical information detected from the blood cells.

20. The blood analyzer of claim 14, wherein the analyzing portion differentiates blood cells into erythrocytes,

leukocytes and platelets, and wherein the analyzing portion counts.

21. The blood analyzer of claim 16, wherein the analyzing
5 portion obtains a degree of agglutination of the carrier particles based on optical information detected from the carrier particles, thereby enabling detection of the substance to be immunoassayed.

10 22. The blood analyzer of claim 14, wherein the analyzing portion corrects an immunoassay result based on a result of blood cell counting.

23. The blood analyzer of claim 22, wherein the analyzing
15 portion obtains a hematocrit value based on size information of blood cells and corrects the immunoassay result using the hematocrit value.

24. The blood analyzer of claim 14, wherein the optical
20 information is scattered light from the particle in the sample for immunoassay.

25. The blood analyzer of claim 14, wherein the optical

information is fluorescence from the particle in the sample
for immunoassay.

26. A method of analyzing blood comprising:

5 preparing a sample for an immunoassay by adding a reagent
for the immunoassay to one of at least two split blood specimens;

preparing a sample for blood cell counting by adding a
reagent for the blood cell counting to another of the at least
two split blood specimens;

10 irradiating the sample for the immunoassay and detecting
optical information from a particle in the sample for the
immunoassay;

irradiating the sample for blood cell counting and
detecting optical information from a particle in the sample

15 for blood cell counting;

detecting a substance to be immunoassayed based on optical
information from the particle in the sample for the immunoassay;
and

performing blood cell counting based on the optical
20 information from the particle in the sample for blood cell
counting.

27. An analyzer comprising:

a sample preparing portion configured for preparing an assay sample by blending carrier particles sensitized with an antibody or an antigen against a substance to be immunoassayed and a fluorescent dye for staining blood cells with a blood specimen;

a light detecting portion comprising a flow cell for flowing the assay sample, a light source for irradiating the assay sample flowing through the flow cell, and a detector for detecting forward scattered light and fluorescence emitted from a particle in the assay sample; and

an analyzing portion, wherein blood cell count and detection of the substance to be immunoassayed are performed based on the forward scattered light and the fluorescence detected by the light detecting portion.

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28. An analyzer comprising:

a sample preparing portion configured for preparing an assay sample by adding at least one reagent to a blood specimen;

a detecting portion for detecting a physical property of a particle in the assay sample; and

an analyzing portion for performing blood cell counting and detection of a substance to be immunoassayed based on the physical property detected by the detecting portion.

29. The blood analyzer of claim 28, wherein the at least one reagent comprises an antibody or an antigen against the substance to be immunoassayed.

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30. The blood analyzer of claim 28, wherein the at least one reagent comprises carrier particles sensitized with an antibody or an antigen against the substance to be immunoassayed.

10 31. The blood analyzer of claim 28, wherein the at least one reagent comprises a fluorescent dye for staining blood cells.

32. The blood analyzer of claim 28, wherein the physical property is electric resistance when a particle passes through
15 an orifice.